



BSI Standards Publication

Optical fibres

Part 2-50: Product specifications - Sectional specification for class B single-mode fibres

National foreword

This British Standard is the UK implementation of EN IEC 60793-2-50:2019. It is identical to IEC 60793-2-50:2018. It supersedes BS EN 60793-2-50:2016, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee GEL/86/1, Optical fibres and cables.

A list of organizations represented on this committee can be obtained on request to its secretary.

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**Optical fibres - Part 2-50: Product specifications - Sectional
specification for class B single-mode fibres
(IEC 60793-2-50:2018)**

Fibres optiques - Partie 2-50: Spécifications de produits -
Spécification intermédiaire pour les fibres unimodales de
classe B
(IEC 60793-2-50:2018)

Lichtwellenleiter - Teil 2-50: Produktspezifikationen -
Rahmenspezifikation für Einmodenfasern der Kategorie B
(IEC 60793-2-50:2018)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

The text of document 86A/1884/FDIS, future edition 6 of IEC 60793-2-50, prepared by SC 86A "Fibres and cables" of IEC/TC 86 "Fibre optics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60793-2-50:2019.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2019-10-18
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-01-18

This document supersedes EN 60793-2-50:2016.

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Endorsement notice

The text of the International Standard IEC 60793-2-50:2018 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60793-1-1	NOTE	Harmonized as EN 60793-1-1
IEC 60794-3	NOTE	Harmonized as EN 60794-3

Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60793-1	series	Optical fibres	EN 60793-1	series
IEC 60793-1-20	-	Optical fibres - Part 1-20: Measurement methods and test procedures - Fibre geometry	EN 60793-1-20	-
IEC 60793-1-21	-	Optical fibres - Part 1-21: Measurement methods and test procedures - Coating geometry	EN 60793-1-21	-
IEC 60793-1-22	-	Optical fibres - Part 1-22: Measurement methods and test procedures - Length measurement	EN 60793-1-22	-
IEC 60793-1-30	-	Optical fibres - Part 1-30: Measurement methods and test procedures - Fibre proof test	EN 60793-1-30	-
IEC 60793-1-31	-	Optical fibres - Part 1-31: Measurement methods and test procedures - Tensile strength	EN 60793-1-31	-
IEC 60793-1-32	-	Optical fibres - Part 1-32: Measurement methods and test procedures - Coating strippability	EN IEC 60793-1-32	-
IEC 60793-1-33	-	Optical fibres - Part 1-33: Measurement methods and test procedures - Stress corrosion susceptibility	EN 60793-1-33	-
IEC 60793-1-34	-	Optical fibres - Part 1-34: Measurement methods and test procedures - Fibre curl	EN 60793-1-34	-
IEC 60793-1-40	-	Optical fibres - Part 1-40: Measurement methods and test procedures - Attenuation	EN 60793-1-40	-
IEC 60793-1-42	-	Optical fibres - Part 1-42: Measurement methods and test procedures - Chromatic dispersion	EN 60793-1-42	-

EN IEC 60793-2-50:2019 (E)

IEC 60793-1-44 -	Optical fibres - Part 1-44: Measurement methods and test procedures - Cut-off wavelength	EN 60793-1-44	-
IEC 60793-1-45 -	Optical fibres - Part 1-45: Measurement methods and test procedures - Mode field diameter	EN IEC 60793-1-45	-
IEC 60793-1-46 -	Optical fibres - Part 1-46: Measurement methods and test procedures - Monitoring of changes in optical transmittance	EN 60793-1-46	-
IEC 60793-1-47 -	Optical fibres - Part 1-47: Measurement methods and test procedures - Macrobending loss	EN IEC 60793-1-47	-
IEC 60793-1-48 -	Optical fibres - Part 1-48: Measurement methods and test procedures - Polarization mode Dispersion	EN 60793-1-48	-
IEC 60793-1-50 -	Optical fibres - Part 1-50: Measurement methods and test procedures - Damp heat (steady state) tests	EN 60793-1-50	-
IEC 60793-1-51 -	Optical fibres - Part 1-51: Measurement methods and test procedures - Dry heat (steady state) tests	EN 60793-1-51	-
IEC 60793-1-52 -	Optical fibres - Part 1-52: Measurement methods and test procedures - Change of temperature tests	EN 60793-1-52	-
IEC 60793-1-53 -	Optical fibres - Part 1-53: Measurement methods and test procedures - Water immersion tests	EN 60793-1-53	-
IEC 60793-2 -	Optical fibres - Part 2: Product specifications - General	EN 60793-2	-
IEC 60794-2 -	Optical fibre cables - Part 2: Indoor cables - Sectional specification	EN 60794-2	-

CONTENTS

FOREWORD.....	5
1 Scope.....	7
2 Normative references	8
3 Terms and definitions	9
4 Abbreviated terms and symbols	10
5 Specifications	10
5.1 General.....	10
5.2 Dimensional requirements.....	10
5.3 Mechanical requirements	11
5.4 Transmission requirements	12
5.5 Environmental requirements	13
5.5.1 General	13
5.5.2 Optical environmental requirements – Attenuation	14
5.5.3 Mechanical environmental requirements	14
Annex A (normative) Family specification for category B-652 Dispersion unshifted single-mode fibres	16
A.1 General.....	16
A.2 Dimensional requirements.....	16
A.3 Mechanical requirements	17
A.4 Transmission requirements	17
A.5 Hydrogen ageing for sub-category B-652.D.....	19
A.6 Environmental requirements	19
Annex B (normative) Family specification for category B-653 Dispersion shifted single-mode fibres	20
B.1 General.....	20
B.2 Dimensional requirements.....	20
B.3 Transmission requirements	21
B.3.1 General	21
B.3.2 Chromatic dispersion coefficient requirement for sub-category B-653.A fibres	21
B.3.3 Chromatic dispersion coefficient requirement for sub-category B-653.B fibres	22
B.4 Environmental requirements	22
Annex C (normative) Family specification for category B-654 cut-off shifted single- mode fibres.....	23
C.1 General.....	23
C.2 Dimensional requirements.....	23
C.3 Mechanical requirements	23
C.4 Chromatic dispersion parameters for B-654.E fibres	25
C.5 Environmental requirements	25
Annex D (normative) Family specification for category B-655 non-zero dispersion shifted single-mode fibres	26
D.1 General.....	26
D.2 Dimensional requirements.....	26
D.3 Mechanical requirements	26
D.4 Transmission requirements	27
D.4.1 General	27

D.4.2	Chromatic dispersion coefficient limits for sub-category B-655.C fibres.....	27
D.4.3	Chromatic dispersion coefficient limits for sub-category B-655.D fibres.....	28
D.4.4	Chromatic dispersion coefficient limits for sub-category B-655.E fibres.....	28
D.5	Environmental requirements	28
Annex E (normative)	Family specification for category B-656 Wideband non-zero dispersion shifted single-mode fibres	29
E.1	General.....	29
E.2	Dimensional requirements.....	29
E.3	Mechanical requirements	29
E.4	Transmission requirements	30
E.4.1	General	30
E.4.2	Chromatic dispersion coefficient for category B-656 fibres.....	30
E.5	Environmental requirements	31
Annex F (normative)	Family specification for category B-657 Bending loss insensitive single-mode fibres	32
F.1	General.....	32
F.2	Dimensional requirements.....	32
F.3	Mechanical requirements	33
F.4	Transmission requirements	33
F.5	Environmental requirements	35
Annex G (informative)	System design information for category B-655 non-zero dispersion shifted single-mode fibres	36
G.1	General.....	36
G.2	One standard deviation limits for sub-category B-655.D fibres	36
G.3	One standard deviation limits for sub-category B-655.E fibres.....	37
Bibliography.....		39
Figure G.1 – Sub-category B-655.D chromatic dispersion coefficient limits		37
Figure G.2 – Sub-category B-655.E chromatic dispersion coefficient limits		38
Table 1 – Map of IEC designation to ITU-T Recommendations and IEC 60793-2-50:2015 designation.....		8
Table 2 – Dimensional attributes and measurement methods.....		11
Table 3 – Dimensional requirements common to all category B fibres		11
Table 4 – Mechanical attributes and test methods.....		11
Table 5 – Mechanical requirements common to all class B fibres		12
Table 6 – Transmission attributes and measurement methods		12
Table 7 – Transmission, requirements common to all class B fibres		13
Table 8 – Additional transmission attributes required in the family specifications		13
Table 9 – Environmental exposure tests		13
Table 10 – Attributes measured in environmental exposure tests		13
Table 11 – Change in attenuation for environmental tests.....		14
Table 12 – Coating strip force for environmental tests.....		14
Table 13 – Tensile strength for environmental tests		15
Table 14 – Stress corrosion susceptibility for environmental tests.....		15
Table A.1 – Dimensional requirements specific to category B-652.B fibres.....		16
Table A.2 – Dimensional requirements specific to category B-652.D fibres		17

Table A.3 – Mechanical requirements specific to category B-652 fibres	17
Table A.4 – Transmission requirements specific to sub-category B-652.B fibres	18
Table A.5 – Transmission requirements specific to sub-category B-652.D Fibres	18
Table A.6 – Chromatic dispersion properties for sub-category B-652.D fibres	19
Table B.1 – Dimensional requirements specific to category B-653 fibres	20
Table B.2 – Mechanical requirements specific to category B-653 fibres	21
Table B.3 – Transmission requirements specific to category B-653 fibres	21
Table C.1 – Dimensional requirements specific to category B-654 fibres.....	23
Table C.2 – Mechanical requirements specific to category B-654 fibres	24
Table C.3 – Transmission requirements specific to category B-654 fibres	24
Table D.1 – Dimensional requirements specific to category B-655 fibres.....	26
Table D.2 – Mechanical requirements specific to category B-655 fibres	27
Table D.3 – Transmission requirements specific to category B-655 fibres	27
Table E.1 – Dimensional requirements specific to category B-656 fibres.....	29
Table E.2 – Mechanical requirements specific to category B-656 fibres	30
Table E.3 – Transmission requirements specific to category B-656 fibres	30
Table F.1 – Dimensional requirements specific to category B-657 fibres	33
Table F.2 – Mechanical requirements specific to category B-657 fibres.....	33
Table F.3 – Transmission requirements specific to category B-657 fibres	34
Table G.1 – Examples for $\lambda_{\min} = 1\,530\text{ nm}$ and $\lambda_{\max} = 1\,565\text{ nm}$	36

INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL FIBRES –

**Part 2-50: Product specifications –
Sectional specification for class B single-mode fibres**

FOREWORD

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International Standard IEC 60793-2-50 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

The sixth edition cancels and replaces the fifth edition published in 2015. This edition constitutes a technical revision. This edition includes the following significant technical changes with respect to the previous edition:

- a) Introduction of a revised naming convention which better matches with those found in ITU-T Recommendations G.652, G.653, G.654, G.655, G.656, and G.657. These changes are outlined in the scope of this document along with a cross reference table for the new names. Annexes have been rearranged to improve clarity based on the new naming;
- b) Further details on the requirements for 200 micron coated single-mode fibre;
- c) Harmonization with the following ITU-T Recommendations published in November 2016: G.652, G.654, G.657 including revised chromatic dispersion specifications, new categories and new application spaces for these fibre categories;

d) Descriptions of fibre types have been added to the titles of Annexes A to F.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
86A/1884/FDIS	86A/1898/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60793 series, published under the general title *Optical fibres*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

OPTICAL FIBRES –

Part 2-50: Product specifications – Sectional specification for class B single-mode fibres

1 Scope

This part of IEC 60793 is applicable to optical fibre categories B-652, B-653, B-654, B-655, B-656 and B-657. A map illustrating the connection of IEC designations to ITU-T designations is shown in Table 1. These fibres are used or can be incorporated in information transmission equipment and optical fibre cables.

Three types of requirements apply to these fibres:

- general requirements, as defined in IEC 60793-2;
- specific requirements common to the class B single-mode fibres covered in this document and which are given in Clause 5;
- particular requirements applicable to individual fibre categories or specific applications, which are defined in Annexes A to F.

For some fibre categories (shown in the relevant family specifications), there are sub-categories that are distinguished on the basis of difference in transmission attribute specifications. The designations for these sub-categories are documented in the individual family specifications.

Table 1 shows a map from the IEC designations to the ITU-T recommendations. The table also provides the normative annex in this document that contains the detailed specification as well as the name used to describe this fibre type in IEC 60793-2-50:2015. The ITU-T recommendations as well as the IEC categories/sub-categories within each recommendation are given. In some cases, as for Recommendation G.652, a given IEC designation maps to multiple categories in the ITU-T because the ITU-T categories are distinguished by cabled fibre attribute (PMD_Q) performance which are not distinguished in the IEC fibre specifications.